

## **MEMORANDUM**

**TO:** Board of Environmental Protection

**FROM:** Andrea Lani, Bureau of Air Quality

**DATE:** May 21, 2009

**RE:** Proposed Rule: Chapter 159 Control of Volatile Organic Compounds from Adhesives and Sealants

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### **Statutory and Regulatory Reference:**

#### A. Statutory authority.

38 MRSA Section 585-A provides that the Board of Environmental Protection “may establish and amend regulations to implement ambient air quality standards and emission standards. These regulations shall be designed to achieve and maintain ambient air quality standards and emission standards within any region and prevent air pollution.”

#### B. Specific legal mandates requiring adoption.

No specific legal mandates require the adoption of this rule.

### **Location/Applicability:**

The proposed amendments will apply in all areas of the state.

### **Description:**

Adhesives, sealants, adhesive primer, and sealant primer are used in product manufacturing, packaging, construction, and installation of metal, wood, rubber, plastic, ceramics, or fiberglass materials. In general, an adhesive is any material used to bond two surfaces together. In general, a sealant is a material with adhesive properties that is used primarily to fill, seal, waterproof or weatherproof gaps or joints between two surfaces.

VOC emissions from this category result from evaporation of solvents during transfer, drying, surface preparation and cleanup operations. VOC emissions in this category are primarily from industrial and commercial operations such as wood product manufacturers, upholstery shops,

adhesives retailers and architectural trades, such as building construction, floor covering installation and roof repair.

The proposed rule is based on a model rule developed by the Ozone Transport Commission, which in turn is based on the reasonably available control technology (RACT) and best available retrofit control technology (BARCT) determined by the California Air Resources Board (CARB) in 1989. The Department's proposed rule includes the following provisions:

- Regulates the application of adhesives, sealants, adhesive primers and sealant primers by providing options for applicators to either to use a product with a VOC content equal to or less than a specified limit or to use add-on controls;
- Limits the VOC content of aerosol adhesives to 25 percent by weight;
- Requirements for cleanup solvents;
- A VOC limit for surface preparation solvents;
- An alternative add-on control system requirement of at least 85 percent overall control efficiency (capture and destruction efficiency), by weight;
- VOC containing materials must be stored or disposed of in closed containers;
- Prohibits the sale of any adhesive, sealant, adhesive primer or sealant primer which exceeds the VOC content limits listed in the model rule;
- Manufacturers must label containers with the maximum VOC content as supplied, as well as the maximum VOC content on an as-applied basis when used in accordance with the manufacturer's recommendations regarding thinning, reducing, or mixing with any other VOC containing material; and
- Prohibits the specification of any adhesive, primer, or sealant that violates the provisions of the model rule.
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Several adhesive and sealant applications and products are exempt from the proposed rule: tire repair, assembly and manufacturing of undersea-based weapon systems, testing and evaluation associated with research and development, solvent welding operations for medical devices, plaque laminating operations, products or processes subject to other state rules, low-VOC products (less than 20 g/l), and adhesives subject to the state rules based on the OTC 2001 consumer products model rule. Additionally, the proposed rule provides an exemption for adhesive application operations at stationary sources that use less than 55 gallons per calendar year of noncomplying adhesives and for stationary sources that emit not more than 200 pounds of VOCs per year from adhesives operations.

The Department held a hearing on the proposed rule on March 19, 2009. During the public hearing and comment period, the Department received comments from ten parties. A large number of these comments related to single-ply roof membrane adhesives, requesting a phase-in period with the rule only applying during the summer months in 2011, and year-round in 2012, at which time the industry anticipates a compliant product that is effective in the winter will be available. The Department added this phase-in. Other commenters pointed out it created an unfair disadvantage to apply the rule to manufacturers, so the Department revised the rule to apply to products "manufactured for sale in Maine." Additionally, many commenters suggested that the recordkeeping requirements were too burdensome for those who use minimal amounts of the product, so the Department amended the recordkeeping requirement to reduce the burden.

Finally, there were a number of comments requesting additional exemptions, clarifying certain areas of the rule, and pointing out cross-referencing errors. These comments were addressed and the rule revised as appropriate.

**Environmental Issues:**

The proposed rule is designed to reduce VOC emissions from adhesives, sealants, adhesive primer and sealant primers. Volatile organic compounds react with nitrogen oxides in the presence of sunlight to form ground level ozone, which is responsible for exacerbating a variety of respiratory ailments, such as asthma. Although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Although these symptoms are often temporary, repeated exposure can result in permanent lung damage.

Adhesives, sealants, adhesive primers and sealant primers in Maine are responsible for approximately 3.1 tons of VOC emissions per day. The proposed rule is estimated to reduce VOC emissions by approximately 2.5 tons per day.

**Departmental Recommendation:**

The Department recommends that the Board adopt Chapter 159 as proposed and amended.

**Estimated Time of Presentation:**

15 minutes.